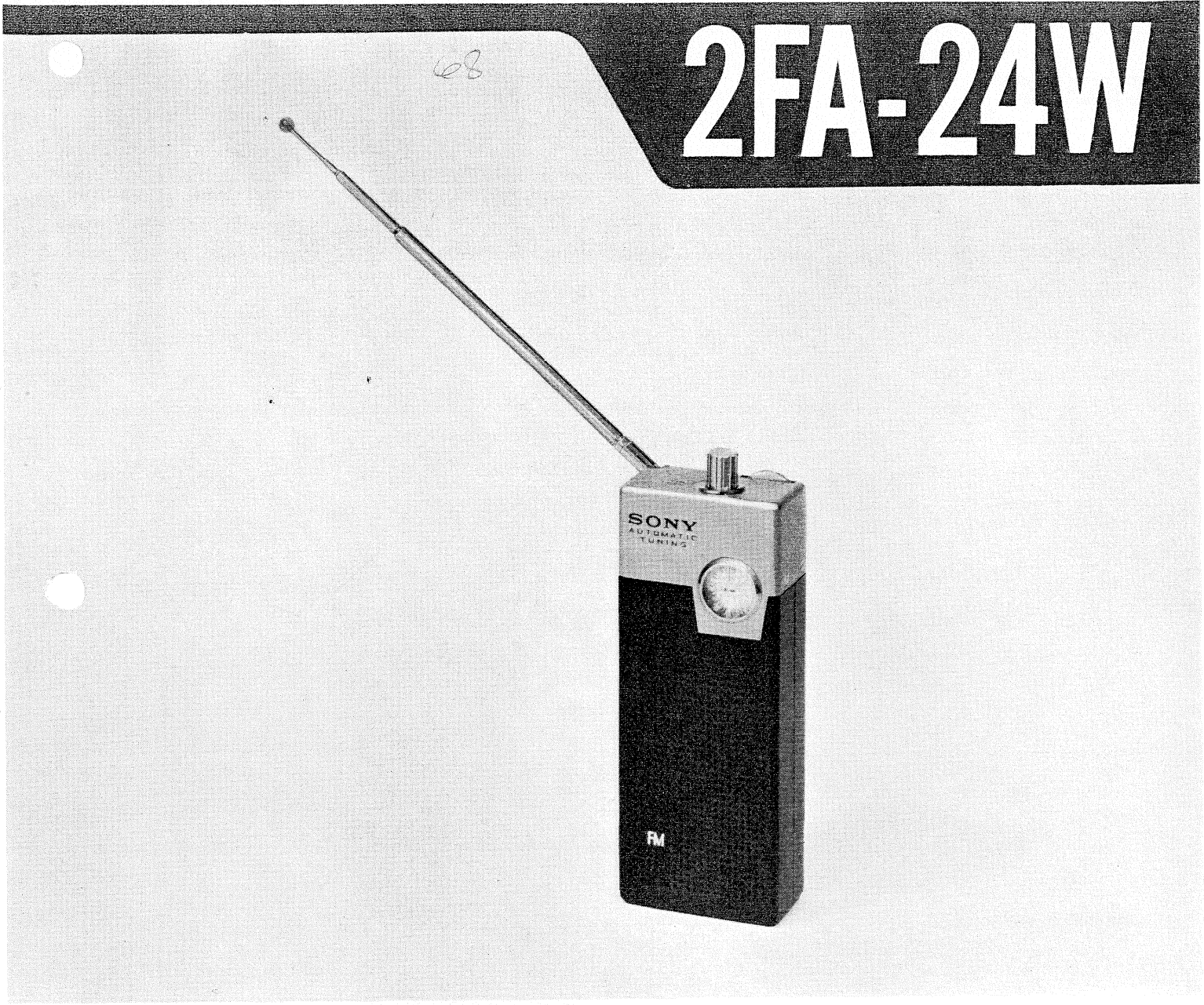
2FA-24W



Specifications

Circuit :	11 Transistor Superheterodyne
Frequency Coverage :	FM 86.5～108 Mc (3.53～2.78 m)
Antenna System :	Built-in Telescopic Antenna
Intermediate Frequency :	10.7 Mc
Maximum Sensitivity : (at 10 mW output)	10 μV/m
Output Power :	115 mW (undistorted) 200 mW (maximum)
Current Drain :	16 mA at zero signal, 77 mA at 115 mW output
Power Source :	3 " Mercury Cell " Mallory RM-640 or Eveready E-640, 3.9 V in total
Speaker :	40 mm (1-9/16″) PM dynamic, 8 Ω
Dimensions :	48 (W) × 120 (H) × 26.5 (D) mm (1-7/8 × 4-3/4 × 1-1/16″)
Weight :	210 g. (7 ozs.)

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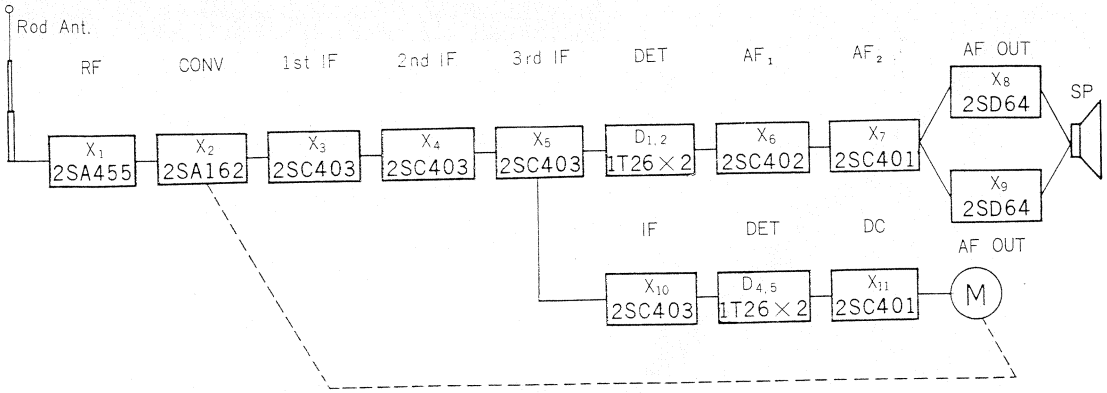
Block Diagram



Removal of Chassis

(1) Remove the four Screws securing the Top Panel to the Cabinet.

(2) Remove the Phillips Screws on the Top Panel near the Telescopic Antenna.

(3) Remove the Telescopic Antenna from the Antenna Catch.

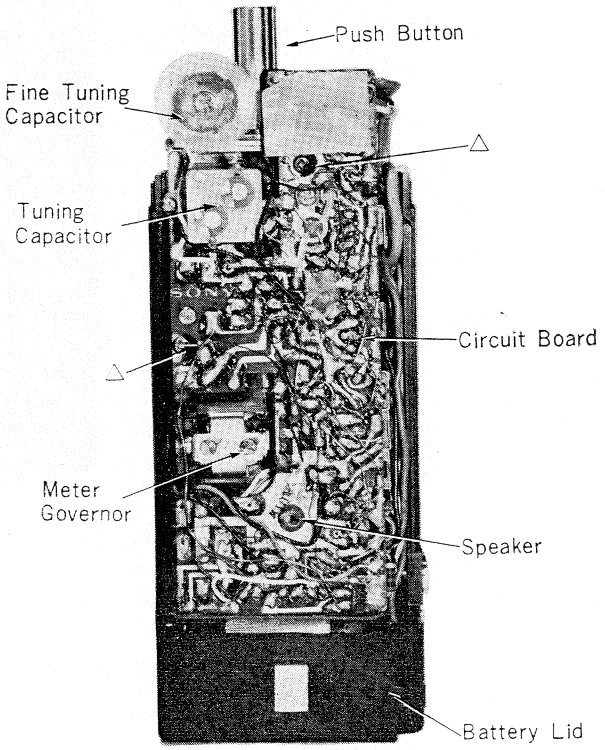
(4) Remove the Top Panel gently from the Cabinet by pulling straight up.

(5) Open the Battery Lid.

(6) Remove the Back Cover gently from the Cabinet taking care not to cut the leads.

(7) Remove the two Screws (marked with △ in Fig. 1) securing the Chassis to the Cabinet.

(8) Remove the Chassis gently from the Cabinet taking care not to cut the leads.



(Fig. 1)

Adjustment and Alignment

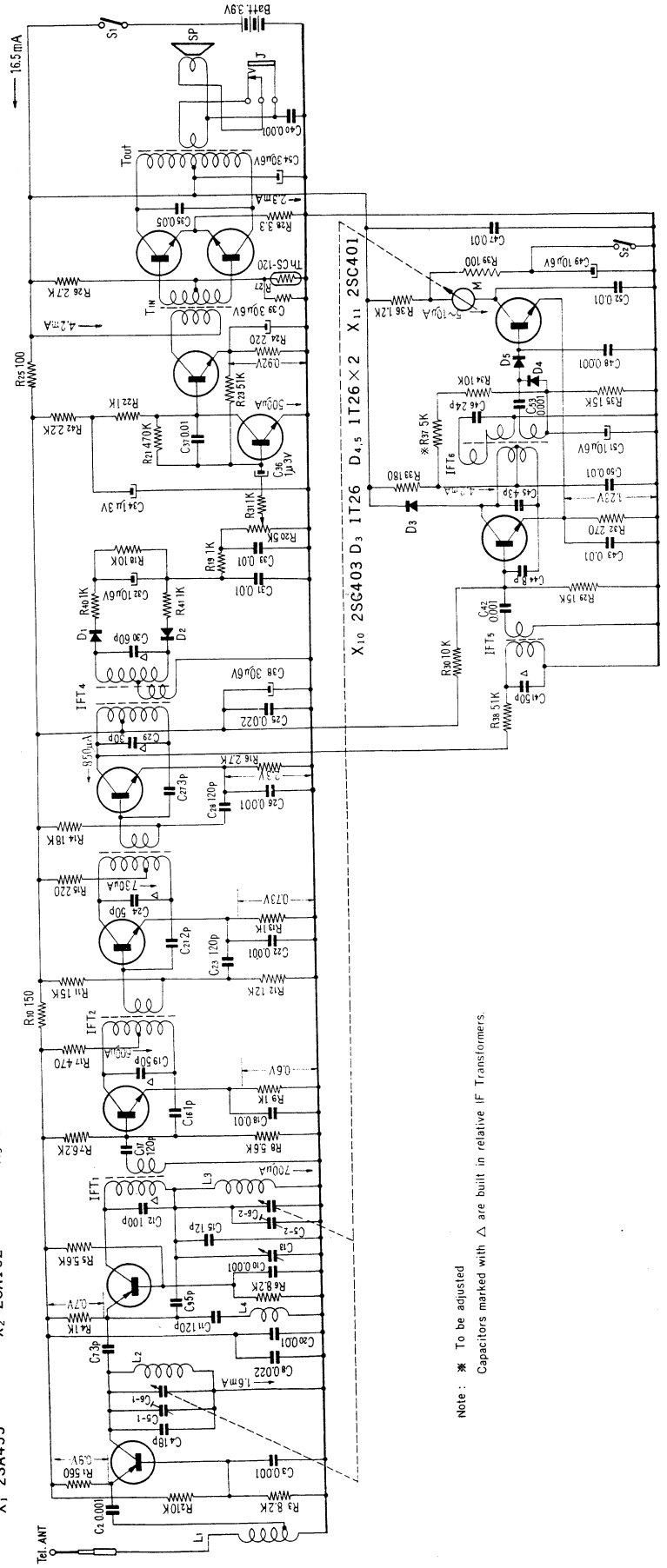
a) Frequency Coverage Adjustment

Lower Limit	Adjust	Upper Limit	Adjust
85.5 Mc	Core of OSC Coil (L_3)	109.5 Mc	OSC Trimmer (C_{5-2})

b) Tracking Adjustment

Lower Checking Point	Adjust	Upper Checking Point	Adjust
86 Mc	Core and Gap of RF Coil (L_2)	108 Mc	ANT Trimmer (C_{5-1})

Schematic Diagram

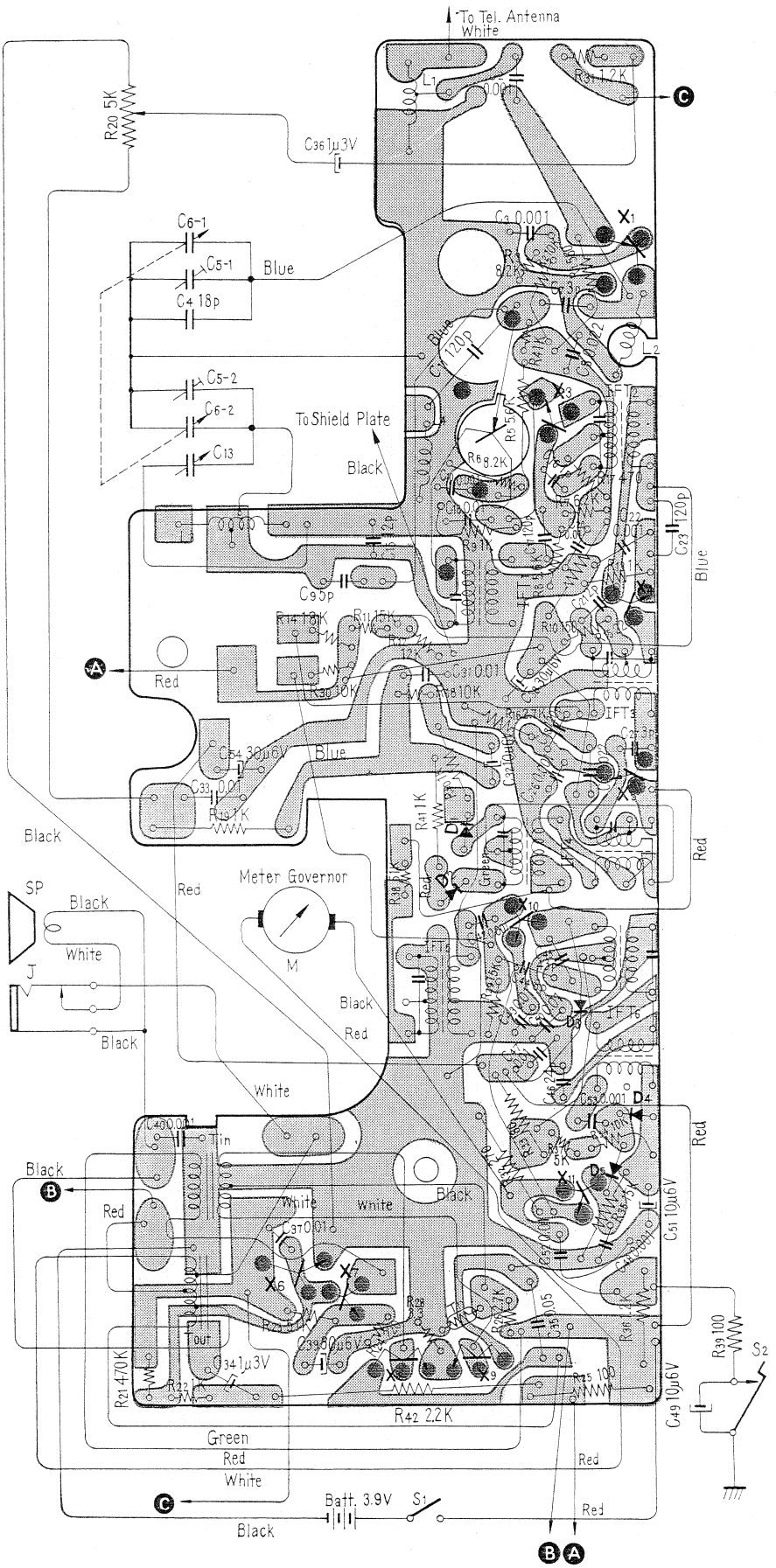


Note : ✱ To be adjusted

Capacitors marked with △ are built in relative IF Transformers.

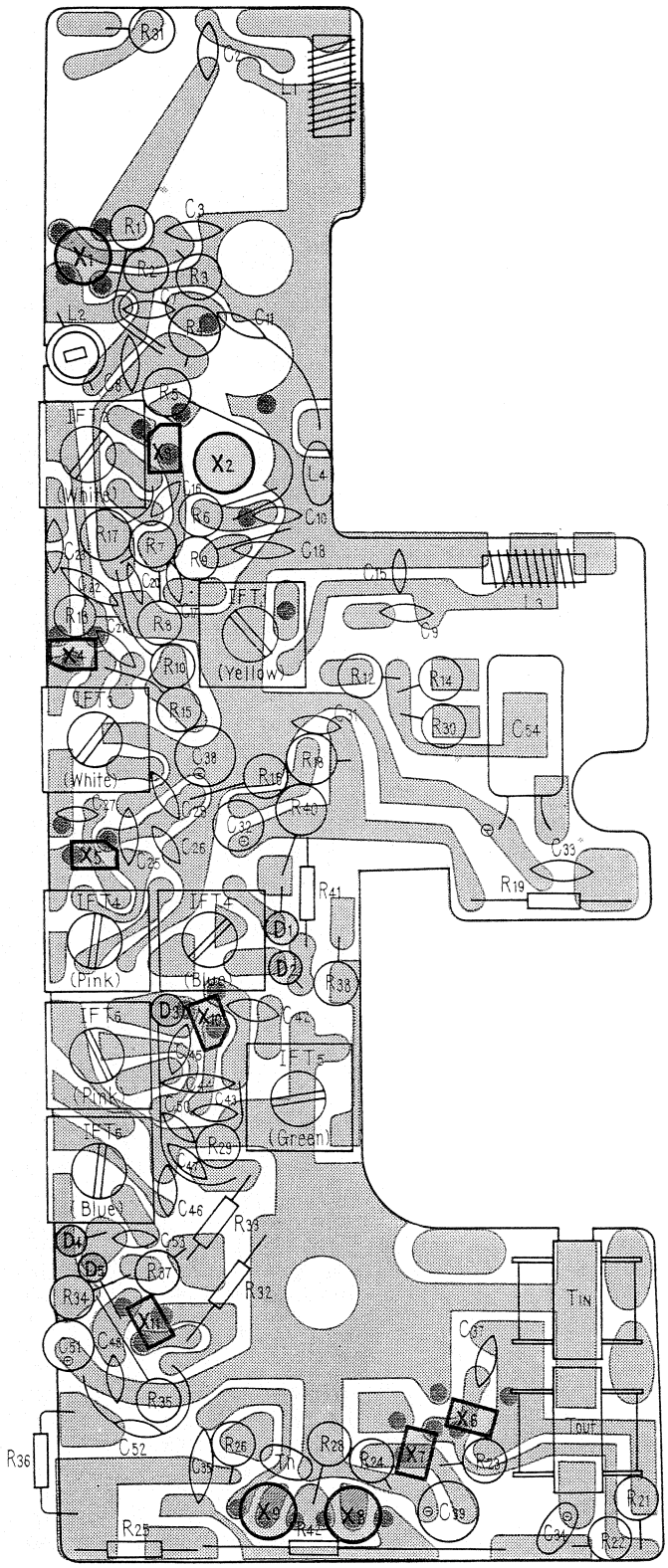
Mounting Diagram

—Printed Side—



Mounting Diagram

—Parts Side—



Electrical Parts List

Part No.	Symbol	Description
1-501-069-11	Tel. ANT	Telescopic Antenna
1-401-239-11	L_1	FM, Antenna Coil
1-405-149-12	L_2	FM, RF Coil
-258-11	L_3	FM, Oscillator Coil
1-407-101-11	L_4	Micro Inductor 2.2μH
1-403-242-11	IFT_1	FM, Single Tuned IF Transformer
-244-11	IFT_2	〃
-244-11	IFT_3	〃
-245-11	IFT_4	FM, Double Tuned IF Transformer for Discriminator
-243-11	IFT_5	FM, Single Tuned IF Transformer
-225-11	IFT_6	FM, Double Tuned IF Transformer
1-423-094-11	T_1	Driver Transformer
1-427-164-11	T_2	Output Transformer
	S_1	Power Switch (Built in Volume Control)
	S_2	Start Switch (Built in Meter Governor)
1-502-130-11	SP	Speaker
1-507-011-01	J	Earphone Jack
1-520-201-12	M	Meter Governor with Start Switch
1-528-020-11	Batt.	Mercury Battery, 3.9 V in total
	X_1	Transistor 2SA455
	X_2	〃 2SA162
	X_3	〃 2SC403
	X_4	〃 2SC403
	X_5	〃 2SC403
	X_6	〃 2SC402
	X_7	〃 2SC401
	X_8	〃 2SD64
	X_9	〃 2SD64
	X_{10}	〃 2SC403
	X_{11}	〃 2SC401
	D_1	Diode 1T261
	D_2	〃 1T261
	D_3	〃 1T261
	D_4	〃 1T261
	D_5	〃 1T261
	Tn	Thermistor CS-120
		Resistor
1-201-132-11	R_1	560Ω 1/8W Composition
-145-11	R_2	10KΩ 〃 〃
-141-11	R_3	8.2KΩ 〃 〃
-163-11	R_4	1KΩ 〃 〃
-106-11	R_5	5.6KΩ 〃 〃
-141-11	R_6	8.2KΩ 〃 〃
-136-11	R_7	6.2KΩ 〃 〃
-106-11	R_8	5.6KΩ 〃 〃
-163-11	R_9	1KΩ 〃 〃
-873-11	R_{10}	150Ω 〃 〃
-201-11	R_{11}	15KΩ 〃 〃
-146-11	R_{12}	12KΩ 〃 〃
-163-11	R_{13}	1KΩ 〃 〃
-824-11	R_{14}	18KΩ 〃 〃
-130-11	R_{15}	220Ω 〃 〃
-819-11	R_{16}	2.7KΩ 〃 〃
-162-11	R_{17}	470Ω 〃 〃
-145-11	R_{18}	10KΩ 〃 〃
-163-11	R_{19}	1KΩ 〃 〃
1-221-585-13	R_{20}	5KΩ Volume Control
1-201-818-11	R_{21}	470KΩ 1/8W Composition
-163-11	R_{22}	1KΩ 〃 〃
-153-11	R_{23}	51KΩ 〃 〃
-130-11	R_{24}	220Ω 〃 〃
-679-11	R_{25}	100Ω 〃 〃
-819-11	R_{26}	2.7KΩ 〃 〃
	R_{27}	220Ω (Built in Thermistor)
1-201-820-11	R_{28}	3.3Ω 1/8W Composition
1-201-201-11	R_{29}	15KΩ 1/8W Composition
-145-11	R_{30}	10KΩ 〃 〃
-279-11	R_{31}	1.2K 〃 〃
-996-11	R_{32}	270Ω 〃 〃
-829-11	R_{33}	180Ω 〃 〃
-145-11	R_{34}	10KΩ 〃 〃
-201-11	R_{35}	15KΩ 〃 〃
-279-11	R_{36}	1.2KΩ 〃 〃
-135-11	*R_{37}	2.2KΩ 〃 〃
1-208-074-11	R_{38}	51KΩ 1/10W Ceramic
1-201-130-11	R_{39}	220Ω 1/8W Composition
-163-11	R_{40}	1KΩ 〃 〃
-163-11	R_{41}	1KΩ 〃 〃
-135-11	R_{42}	2.2KΩ 〃 〃
		Capacitor
	C_1	—deleted—
1-101-125-15	C_2	0.001μF Ceramic
-125-15	C_3	0.001μF 〃
-863-11	C_4	18PF 〃
1-151-114-11	$C_{5-1\sim2}$	Trimmer Capacitor, 2 unit
	$C_{6-1\sim2}$	Tuning Capacitor, 2 gang
1-101-612-11	C_7	3PF Ceramic
1-105-353-12	C_8	0.022μF Mylar
1-101-012-11	C_9	5PF Ceramic
-125-15	C_{10}	0.001μF 〃
-340-11	C_{11}	120PF 〃
	C_{12}	100PF (Built in IFT_1)
1-151-115-11	C_{13}	Fine Tuning Capacitor
	C_{14}	—deleted—
1-101-051-11	C_{15}	12PF Ceramic
-602-11	C_{16}	1PF 〃
-340-11	C_{17}	120PF 〃
-072-14	C_{18}	0.01μF 〃
	C_{19}	50PF (Built in IFT_2)
1-101-072-15	C_{20}	0.01μF Ceramic
-607-11	C_{21}	2PF 〃
-125-15	C_{22}	0.001μF 〃
-340-11	C_{23}	120PF 〃
	C_{24}	50PF (Built in IFT_3)
1-105-353-12	C_{25}	0.022μF Mylar
1-101-125-15	C_{26}	0.001μF Ceramic
-612-11	C_{27}	3PF 〃
-340-11	C_{28}	120PF 〃
	C_{29}	30PF (Built in IFT_4)
	C_{30}	60PF (Built in IFT_4)
1-101-072-14	C_{31}	0.01μF Ceramic
1-121-104-11	C_{32}	10μF 6V Electrolytic
1-101-072-14	C_{33}	0.01μF Ceramic
1-127-053-11	C_{34}	1μF 3V Electrolytic
1-101-796-11	C_{35}	0.05μF Ceramic
1-127-053-11	C_{36}	1μF 3V Electrolytic
1-101-072-14	C_{37}	0.01μF Ceramic
1-121-102-11	C_{38}	30μF 6V Electrolytic
-102-11	C_{39}	30μF 6V 〃
1-101-125-15	C_{40}	0.001μF Ceramic
	C_{41}	50PF (Built in IFT_5)
1-101-125-15	C_{42}	0.001μF Ceramic
-072-15	C_{43}	0.01μF 〃
-958-11	C_{44}	8PF 〃
-879-11	C_{45}	43PF 〃
-868-11	C_{46}	24PF 〃
-072-15	C_{47}	0.01μF 〃
-125-15	C_{48}	0.001μF 〃
1-121-104-11	C_{49}	10μF 6V Electrolytic
1-101-072-15	C_{50}	0.01μF Ceramic
1-121-104-11	C_{51}	10μF 6V Electrolytic
1-101-072-14	C_{52}	0.01μF Ceramic
-125-15	C_{53}	0.001μF 〃
1-121-102-11	C_{54}	30μF 6V Electrolytic

* To be adjusted

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